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SEPTEMBER  
1948

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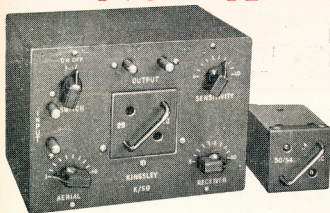


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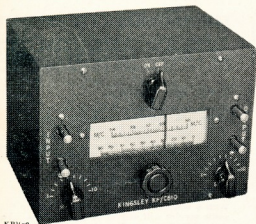
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SEPTEMBER ..... 1948

Vol. 16. No. 9

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H. HEARNE & CO. PTY. LTD.,  
285 Latrobe St., Melbourne.

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.I., on or before the 15th of each month.

Subscription rate is 6/- per annum, in advance (post. paid).

Wireless Institute of Australia (Victorian Division) Rooms. Telephone: FJ 6997.

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# AMATEUR RADIO

*Published by The Wireless Institute of Australia,  
Law Court Chambers, 191 Queen Street,  
Melbourne, C.I*

## EDITORIAL



For centuries men have shown their appreciation for the pioneers of science and the arts, by honouring those who have advanced the world in which they lived.

In the sphere of radio, it is comparatively simple to look back over the past forty years, during which time the growth of this branch of science has been so rapid that its development has occurred within the memory of one generation.

Apart from the pioneers we rightly honour as the inventors of specific radio devices, there are those real experimenters who have contributed in no small measure to the development and application of radio in the life of the ordinary citizen.

Many experimenters have used their knowledge in the commercial world, and have, by their organizing genius and technical ability, done much to advance the radio industry in times of war and peace.

Among such illustrious names are those of the late H. K. LOVE, VK3KU, and F. W. MEDHURST, VK7AH, who have shown, by their practical interest in the radio world, the true qualities of pioneers; and, as active amateurs, have contributed much to the fraternal atmosphere of the amateur movement.

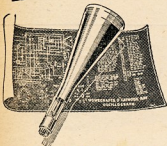
By their deaths amateur radio has lost two of the finest amateurs, whose kindly natures and cheerful personalities will never be forgotten by their fellow amateurs.

**FEDERAL EXECUTIVE.**

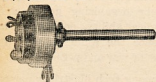
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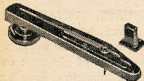
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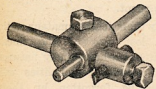
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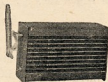
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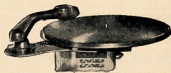
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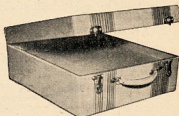
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# Converting the TA12D for Amateur Use

BY J. C. DUNCAN\*, VK3VZ

Are you one of those Hams who spend hours out in a cold shack, when you could be sitting alongside a warm fire, remote controlling the rig? If so the TA12D may be the answer to your problem, because this Transmitter can be band-switched and keyed from a remote position, and with the aid of a pre-amplifier, plate modulated to 100 watts input.

**DESCRIPTION** The Bendix TA12D is an aircraft transmitter built for low and medium frequencies, like the American counterpart of the English T1154/R1155.

The r.f. line-up consists of four separate v.f.o.'s., using 12SK7s, feeding an 807, which is a straight amplifier on the low frequency range (1200-1540 Kc.) and a doubler on three higher ranges. The v.f.o.'s. and doubler tank condensers are ganged on Channels 2, 3 and 4. The doubler feeds two parallel 807s in the final, running at 525 volts, 210 Ma.

A motor-tuned bandswitch of seven sections selects the required v.f.o., doubler tank, and p.a. tank circuits; these circuits being pre-tuned to the required frequency. Parallel feed is used to the plates of both the doubler and final stages as can be seen from the simplified circuit diagram, Fig. 1.

The combined p.a. tank circuit and antenna tuning network is one not often met with in Amateur equipment, and will be recognised as a pie-network. A three position switch, located on the rear of each variable inductance, enables a fixed capacity to be switched in parallel with the variable capacity, or across the output of the network (the position shown in Fig. 1). In addition series capacitors, shunted by resistances, can be placed in series with the aerial if desired. The latter condensers and switches are located under the horizontal insulated panel alongside the antenna relay. As the whole antenna network was designed to match a wide range of antenna lengths, the output circuit can be considerably simplified where we are feeding resonant antennae.

The modulator unit used with these transmitters is particularly interesting to the Amateur, as it contains quite a few components of value even if the unit is scrapped for the parts.

The modulator is mounted with the motor-generator unit, and consists of an output stage of two tetrodes (807s) in push pull, driven by a penthode amplifier (6F6). The latter stage is preceded by an a.f. oscillator (6N7) for m.c.w. when required. A separate three-stage intercom. amplifier is used to drive the 6F6 for phone.

No alterations have been made to the modulator unit yet, but it seems that the 6N7 stage could be rewired into a

two-stage amplifier without much difficulty. The motor generator requires an input of 24 volts at 14.8 amps., the output being 540 volts at 450 Ma. Starting solenoid, fuses and filter circuits are also incorporated in this unit. The negative 540 volt pole is earthed via a 60 ohm tapped resistance to provide bias for the p.a. and modulators. The latter section will be replaced by a suitable a.c. supply in the writer's case.

The outlet connections for the modulator-power supply unit, and r.f. section are as follows:—

#### Power Supply and Modulator.—

(1) +24 v., (2) —24 v., (3) Fil. out, (4) B+ in, (5) Fil. in, (6) Dyn. Relay, (7) B+ out, (8) Side Tone, (9) Audio to P.A. [Nos. 7 and 9 are secondary of Mod. Trans.], (10) M.C.W., (11) Bias to P.A.—24 v., (12) Microphone, (13) Emergency Microphone, (14) Mod. Relay, in Cathodes of 807s, (15) Blank, (16) Microphone, other end of primary winding to pin 12.

#### R.F. Unit Connections.—

(1) Fil., (2) Ground, (3) Channel 1, (4) Channel 2, (5) Channel 3, (6) Channel 4, (7) Motor, (8) Audio Modulation, (9) Antenna Loading Relay on Channel 1 only, (10) B+ in, (11) B+ out, (12) Dyn. Start, (13) Antenna Relay, (14) —24 volts bias to P.A., (15) and (16) no connection.

Connection between pin 7 and any one of pins 3, 4, 5 and 6 will cause the band-switching motor to rotate to the Channel selected. A separate bank on the bandswitch is used to accomplish this. D.C. for the motor and clutch

relay is obtained from the 24 volt Fil. (pin 1). The motor and clutch relay are connected in series across the 24 volts, and are each of 12 volt rating.

**The Antenna Relay** carries out a number of functions, which are as follows:—

- (1) Keys the plate voltage of the transmitter on c.w. and m.c.w.
- (2) Switches the antenna from transmitter to receiver antenna post, and grounds the receiver connection when the transmitter is on.
- (3) Pair of contacts energises the dynamotor starting relay.

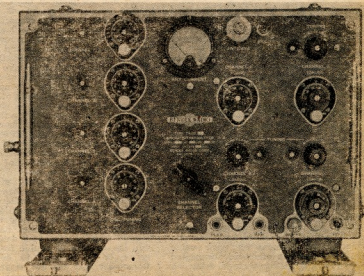
The antenna relay coil can be operated from the front panel of the transmitter by pressing button marked "Key." The bandswitching motor can be controlled from the transmitter by releasing the push button under the screwed cover, marked "Local."

**The ranges of the TA12D are as follows:—**

Channel 1—1200-1540 Kc.
2—2000-3400 Kc.
3—3,000-4,800 Kc.
4—4,300-7,000 Kc.

In the TA12C model, channel 3 covers 4,800-7,600 Kc., and channel 4 from 7,680 to 12,000 Kc.

The construction of the transmitter is exceedingly good, and very compact. The four v.f.o.'s. are located in a cast aluminium box, and are arranged vertically down the left hand side of the front panel, the box being divided into four sections by aluminium partitions. The shafts ganging the oscillator and doubler condensers project from the side



\*Technical Editor; 23 Parkside Avenue, Balwyn, Victoria.

of the box, with the doubler condensers and associated coils, mounted on the outside.

The remainder of the front panel is taken up by the r.f. meter, p.a. variable inductance, and loading condensers. A small sub-chassis running across the rear of the unit carries the 807 doubler and pair of 807s in the p.a., from left to right respectively, followed by the antenna relay, and loading panel at the extreme right.

The motor and bandswitch are located under this sub-chassis, and can be hand controlled by a right angle drive from the front panel.

**MODIFICATIONS** The first step is necessary alterations to the v.f.o.'s, and it is quite obvious that Channels 1 and 2 cannot be used, whilst Channel 3 will suit 3.5 to 3.8 Mc. without alteration. Channel 4 will only partly cover the 7 Mc. band, and to extend the range slightly, brass slugs were inserted in the v.f.o. and doubler coils, as will be described later.

The inspection cover is removed from the v.f.o.'s, and also the main end plate of the chassis. The power inlet plug which is secured to this plate is not removed, as it will be found that there is sufficient slack in the wiring to enable the plate to be swung around out of the way. Next the aluminium divisions between the v.f.o.'s are removed. Some of the screws may be hard to get at but a pair of pliers will remove the few hard ones by the brute force method.

Referring to Fig. 1, all wiring in heavy black lines is new, and it can be seen that all wiring except the filaments of Channel 1 must be removed. The variometer was left in position, but could be removed if desired. Put the octagonal brass pillar aside, which supports the condenser strip, as this is required later for the slug of Channel 4.

**Filaments.**—Channels 1, 2, 3 and 4 are now rewired for 12 volt operation. In Channels 1 and 2 the 12SK7s are in series, as are also the tubes in Channels 3 and 4. The filament wires can be traced easily, as they run through the rubber grumets located under each partition, and connect to the 24 volt feed-thru insulator in Channel 4. Small insulated anchor lugs are placed under the screws holding the valve sockets on Channels 2 and 4, and the active 24 volt leads tied to these lugs on their way to the valve sockets. The common lead between the filaments of Channels 3 and 4 is now cut sufficiently far from Channel 4 valve socket, so that the wire coming from Channel 4 can be earthed to a convenient point, and the remaining wire from Channel 3 socket can be connected to the anchor point on Channel 4 socket. Channels 1 and 2 are then treated similarly.

The procedure may sound complicated, but is simpler to have the one side of the filament on each valve grounded and the other side connected to the 24 volt inlet on Channel 4 (which will now be supplied with 12 volts a.c.), and to alter the wiring without disturb-

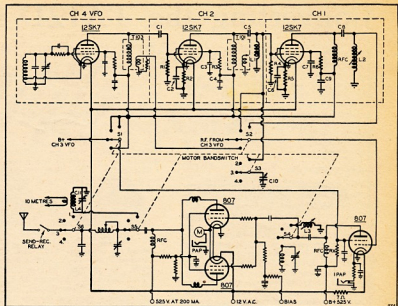


FIG 1

Rx—12,000 ohms, changed to 2,500 ohms 20 watt.  
R1, R4—10,000 ohms, ½ watt.  
R2, R5—20,000 ohms, 1 watt.  
R3, R6—50,000 ohms, ½ watt.  
C1, C5, C8—100 pF. mica.  
C2, C3, C4, C6, C7, C9—0.01 uF. mica.  
C10—3-30 pF. air trimmer.  
C11—60 pF. double spaced variable.

R.F.C.—R.F. Choke reused from Channel 1.  
L1—3" diam. former, 30 turns, 26 s.w.g.  
L2—2" diam. former, 11½ turns at 24 turns per inch.  
L3—2" diam. former, 4½ turns, 22 s.w.g. at 14 turns per inch.  
L4 (28 Mc. p.a.)—2 turns 1½" diam., 14 s.w.g., 1" long.

ing the whole of the v.f.o. wiring in Channels 3 and 4, as would be necessary, if the existing wires were not reused.

The slug is now made for Channel 4 v.f.o., and the piece of brass rod, mentioned previously, is cut off 1½" from the screwed end. The corners are now rounded, until the slug will slip easily into the v.f.o. coil. The screw holding down the coil is removed and the brass slug is inserted in its place, the top of the slug being slotted to take a screw-driver. A similar length of rod, also rounded is slipped into the appropriate doubler coil on the outside of the box, and should be adjusted to give maximum drive to the p.a. When the correct point is found, the wax on the coil former is melted on the coil with a soldering iron, and when set will hold the slug securely in place. The reduction in the inductances by the addition of the brass slugs, is sufficient to reach 7.4 Mc. on Channel 4 v.f.o., thereby giving full coverage of the 40 metre band.

Channel 3 v.f.o. is unaltered, apart from the filaments as mentioned previously, so attention is now turned to Channel 2. This channel has to be altered from a v.f.o. to a doubler, and will be required to double from Channel 4 on 80 metres, to 40 metres. **Remember that the 807 stage doubles to 40 metres from Channel 4 v.f.o. which is on 80 metres, when 40 metre**

output is required. To make this clearer the table below is appended.

Channel	V.F.O. (Output)	807 Doubler	P.A. Output
3	160*	80*	80*
4	80	40	40
2	40	20	20
1	20	10	10

\* Metres.

It can be seen from the table that when the bandswitch is in position 1, Channel 1 will be delivering 20 metres r.f. to the 807 doubler, which doubles to 10 metres.

Reverting to Channel 2. As can be seen from Fig. 1, a doubler circuit is used which requires the minimum of alterations in this stage, as the circuits of Channels 4, 3 and 2 are similar. The primary of T101 is used as an r.f. choke, and the secondary is unused. The v.f.o. inductance L1 is removed and rewound with 26 s.w.g. 30 turns, close wound. If it is desired to tune the doubler stage, the condenser which originally tuned the v.f.o. could be used. The turns on the coil would have to be reduced however. The doubler tank for the 807 stage, located on the outside of the box, must now be altered. To do this the aluminium cover enclosing the 807

tanks is removed, and the inductance on the back of Channel 2 removed and rewound with 15 turns of 20 s.w.g., close wound. The tank condenser being disconnected from this inductance. The object is to make the doubler tanks broadly resonant, and avoid additional tuning controls.

Channel 1 is now wired and in this case it is practically a rewired job, as this stage was variometer tuned previously, and not much can be reused, except one of the r.f. chokes. The inductance L2 was wound on a 1" polystyrene former and tuned with a brass slug, the turns and spacing being given in the coil table. There is no inductance for the 807 doubler on Channel 1, so it will be necessary to make one. This coil L3 in Fig. 1, is fixed under the rear sub-chassis of the transmitter, and connected to the vacant contact on the bandswitch bank, which switches the 807 doubler plate tanks. The coil data is given in the table to tune to 10 metres.

This completes the work to the v.f.o. section, but before replacing the end panel on the transmitter, some work has to be done to the 807 doubler socket. The first step is to change the 807's over to 12 volt operation. As originally wired the 24 volts comes from Pin 1 on the power socket, through the 7 ohm resistor nearby, thence through the 807 doubler, and two p.a. filaments in series. The wire running between the 807 doubler socket and one of the p.a. 807's is removed from the doubler socket and resoldered to the top end of the 7 ohm resistor. The filament pin on the 807

doubler socket, now vacated is connected to chassis. H.T. is now supplied to the two doublers when on Channels 4, 2 and 1 by connecting the appropriate contacts on the No. 2 bank of the bandswitch. To complete the alteration to the 24 volt d.c. circuit, it is necessary to remove the relay and motor wires which are connected to this circuit, and provide a separate inlet for their energisation.

With the aid of a continuity meter it will be found that a wire which is connected to the top of the 7 ohm resistor, connects to Channel 1 pin on the third bank of the bandswitch (reading from left to right, with the chassis inverted, rear view). The leads which connect to the antenna relay and motor also connect to this point. When the bandswitch is in Channel 1 position, the wiper on this bank supplies d.c. to pin No. 9 on the power inlet plug. This is to close a relay in the antenna unit loading coil, and remove a short on the coil when operation on the low frequency band is required.

The lead running from the 7 ohm resistor to the third bank of the switch, is disconnected at both ends, and the wires cut off short where they enter the wiring loom. The remaining wires on the bandswitch are removed, including the wiping contact going to Pin 9, and joined together and taped. This will have cleared the bank of the bandswitch, and made Pin 9 the d.c. inlet for the relay and motor.

A small 3-30 pF. air trimmer is now connected between Channel 1 position

on the bandswitch, bank 3 and ground, and Channel 2 position, on bank 1 connects to the wiper contact on bank 3. Reference to Fig. 1 will show the reason for this condenser, C10. When the 807 doubler grid is switched from Channel 2 to Channel 1, the capacity of the tube is removed from across L1, and to restore resonance C10 is inserted.

The last alterations necessary are the power amplifier, output circuits.

The loading coil, switches, and fixed condensers, located on and under the insulated panel, alongside the antenna relay, are now removed and any connections from the variable inductances which are disturbed, are connected to their appropriate feed-thru insulators, connecting them with the antenna output bank on the bandswitch. This small area of the sub-chassis can now be used for battery bias for the p.a. if it is not desired to use an external supply, or the area could be used to house the 10 metre antenna change over relay for a rotary beam.

The variometer in the p.a. output circuit is now removed, and the two pillars which supported it from the front panel are used to take a small metal panel, drilled to fit the one hole mounting of the new 10 metre tank condenser. The inductance for this tank L4 is wound of heavy gauge wire, or copper tubing, and is supported from the terminals of the condenser. A single turn link is coupled to the inductance, and taken to a co-axial outlet in any convenient position. The two parasitic chokes in the plate circuit of the 807's

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were found to be resonant on 10 metres, so were replaced with 9 turns of wire, 1" diameter. The wire was taken from the loading coil removed previously. With these chokes in position the p.a. was perfectly stable, and without any vices whatsoever, on all bands covered.

To supply correct operating voltages to the 12SK7 doublers, and 807 screen, the screen resistor to the 807 doubler had to be reduced to 2,500 ohms, due to the heavier current flowing.

To prevent excessive voltage being applied to the v.f.o. when operating on Channel 3, it is advisable to insert the 12,000 ohm resistor, removed from the 807 doubler screen, in the h.t. lead to the Channel 3 v.f.o. This resistance is not shown in the schematic drawing.

The final alteration is to replace the r.f. ammeter with a 250 Ma. meter, and connect in the cathode circuit of the p.a. The r.f. meter has too high a range for the normal 300 to 600 ohm lines and it was found much easier to tune and load the transmitter with the plate current meter. In the aircraft installation all tuning is done by plugging an external milliammeter into the p.a.p. and i.p.a.p. jacks on the front panel, which read power amplifier and doubler cathode currents, respectively.

These jacks are handy in our case as they can be used to key the transmitter, if preferred to the relay method.

**POWER SUPPLIES** Two power supplies are required for the r.f. section. A minor h.t. supply of 450 volts at 150 Ma., connected between Pin 11 and earth or Pin 10 through antenna relay, to supply the v.f.o. and 807 doubler, and main h.t. supply of 500 volts at 200 Ma. for the power amplifier stage, connected through the modulator transformer to Pin 8. A source of bias is required of about 25-30 volts, which is most easily obtained from a battery. 12 volts a.c. is required for the filaments.

**ADJUSTMENT AND TUNING** It is essential in adjusting a transmitter of this type to have a sensitive indicating wavemeter. A tuned circuit with a germanium or diode rectifier, and 0-500 micro-ammeter is satisfactory. This must be calibrated, so that the right harmonic of the doubler tanks can be selected, and tuned for maximum output. A 10 Ma. meter is connected between Pin 14 and chassis, to indicate grid current to the p.a. during the first adjustments. Set the bandswitch to Channel 3, and apply minor h.t. The p.a. meter will indicate grid current when the antenna relay is held in the closed position. This relay should now be held closed with a piece of matchstick for all subsequent tests. The v.f.o. is now set to the centre of the 80 metre band, and main h.t. applied with no antenna connected. The final plate current should be about 240 Ma. Set the p.a. loading condenser to about 30 on the dial, and adjust the variable inductance until the plate current dips. The antenna can now be connected, and the inductance varied for dip. Increasing the capacity of the

loading condenser and restoring the p.a. to resonance dip at each step will increase the loading to the antenna. The correct operating current should be about 200 Ma. for Channels 4, 3 and 2, and about 180 Ma. for the 10 metre band. The 10 metre band being loaded by the link in the conventional manner, by adjusting the coupling of the link to its tank coil.

When Channel 3 is operating correctly, main h.t. is removed and the bandswitch set to Channel 4. Minor h.t. is applied and the p.a. grid meter checked for a reading. Adjust the slug, mentioned previously, in the 807 doubler plate tank for maximum p.a. drive. The Channel 4 v.f.o. being set to the middle of the band, the tuning procedure which applied to Channel 3 is carried out. It is important in both cases that the small switches located on the rear of the variable inductances of the appropriate p.a. tanks, be set to the position where the fixed condensers, also located on the inductances, are connected as shown in Fig. 1. Bands 3 and 4 are finally checked with the wavemeter to make sure they are on 80 and 40 metres respectively.

Turn the bandswitch to Channel 2 and apply minor h.t. Couple the wavemeter to L1, and insert a piece of brass rod in the coil, if the indication of resonance on the sensitive wavemeter shows an increase on 40 metres, as the rod is inserted, the inductance is too large, and the turns of the coil must be spread slightly. By this method the doubler is tuned, but it must be stressed that a calibrated wavemeter must be used because it is quite easy to tune the doubler to 10.5 Mc. by getting the wrong harmonic. The spacing of the turns on the 807 tank at the rear of Channel 2 can now be varied for maximum grid drive, which should be about 8 Ma. when properly adjusted. The p.a. plate circuits can now be adjusted as previously described, the output being on the 20 metre band.

With the minor h.t. applied and the bandswitch on Channel 1, the doubler in this compartment should now be adjusted. It will be necessary to insert a meter in the grid circuit of this 12SK7 and adjust C10 for maximum drive. The meter is now removed, the wavemeter tuned to 20 metres and coupled to L2. The slug is adjusted for resonance on 20 metres, and if the peak is not obtainable within the range of the slug, the turns on the coil are altered accordingly. Couple the wavemeter to the new inductance (L3) in the 807 doubler plate circuit, located under the chassis, and adjust the slug for resonance on 10 metres, the grid drive to the p.a. should be 5-6 Ma. Main h.t. can now be applied and the p.a. tank condenser tuned to resonance. Swinging the bandswitch through positions 1, 2, 3 and 4 should give outputs on 10, 20, 80 and 40 metres respectively, as indicated on the wavemeter, when held near the antenna terminal and the 10 metre coil.

**RELAY SUPPLIES** The 24 volts required for the motor tuning and antenna relay can be obtained by means of a suitable metal rectifier and step down transformer. 12 volt operation could be obtained for the relays, if the clutch relay and motor connections were re-arranged for parallel operation on the terminal board of the clutch relay coil. The antenna change-over relay would have to be rewound however. Pin 9 on the power inlet plug is now d.c. input for relays and motor, and antenna relay is keyed between Pin 13 and chassis.

It is hoped to describe the conversion of the modulator unit in a later article.

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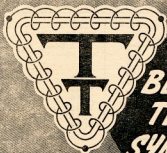
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# VK/ZL INTERNATIONAL DX CONTEST

The New Zealand Association of Radio Transmitters, in conjunction with the Wireless Institute of Australia, has much pleasure in announcing another post-war "first"—the 1948 VK/ZL International DX Contest.

**OBJECTS.**—For the world to contact all VK and ZL call areas and vice versa.

**WHEN.**—1201 G.M.T. 1st October to 1159 G.M.T. 3rd October—C.W. operation.

1201 G.M.T. 8th October to 1159 G.M.T. 10th October—Phone operation.

1201 G.M.T. 15th October to 1159 G.M.T. 17th October—C.W. operation.

1201 G.M.T. 22nd October to 1159 G.M.T. 24th October—Phone operation.

**DURATION.**—(a) For contest purposes, ZL and VK stations will limit their period of operation to any consecutive 24 hours' period on each week-end—i.e. within the times given above.

(b) Stations in other countries may contact ZL and VK stations for contest purposes at any time during the operating periods as defined above.

## RULES

1. There shall be three main sections to the contest.

(a) Transmitting C.W.

(b) Transmitting Phone.

(c) Receiving (Phone and C.W.).

2. Contestants may compete in the "open" events (i.e. all band) or on one or more individual bands by submitting a log for each individual band.

3. The contest is open to all licensed transmitting Amateurs and receiving stations in any part of the world. No prior entry need be made. Marine, mobile and expedition stations are not permitted to enter for the contest.

4. C.W. will be used for the first and third week-ends and phone for the second and fourth week-ends. Stations entering for both c.w. and phone sections must submit separate logs for both phone and c.w. (see rule 12).

5. All amateur frequency bands may be used.

6. Only one contact per band per week-end with any one station for committed to operate one station under test purposes is permitted.

7. Only one licensed Amateur is per the owner's call sign. Should two or more operators operate any particular station, each will be considered a competitor and must submit a separate log under his own call sign.

8. Each participant will assign himself a serial number of three figures. When two or more operators work from the one station (rule 7), each will assign himself a different serial number. This serial number must remain unaltered for phone and c.w. contacts.

9. Serial numbers to be exchanged during contest QSOs will be as for the A.R.R.L. DX Contest, i.e. the personal three figure cypher will be preceded by the signal report, making a six figure serial for c.w. and a five figure serial for phone.

10. **SCORING.**—Both the VK/ZL station and the station in the remote locality receive ONE point when a serial number is acknowledged by the station in the remote locality. Each operator adds TWO points more when a serial number to the VK/ZL station is acknowledged.

11. **MULTIPLIERS.**—(a) VK/ZL stations. For each band the multiplier will be the number of countries worked on that band except that for the U.S.A. each call area will be a multiplier. A.R.R.L. countries list will be used.

(b) Other Stations. For each band the multiplier will be the number of VK/ZL districts worked on that band. These are VK2, 3, 4, 5, 6, 7, 9; ZL1, 2, 3, 4.

12. **LOGS.**—(a) Logs must show (in this order) Date, Time (G.M.T.), Band of Operation, Call of Station Worked, Serial Number Sent, Serial Number Received. Points Claimed.

(b) Each new country (or VK/ZL call area) contacted must be underlined in RED ink or pencil.

(c) A separate log must be submitted for each band. For each band a summary must be given showing (a) list of countries (VK/ZL call areas) worked; (b) total number of contacts made on that band; (c) Points claimed for that band.

(d) Summary sheet to show: Call Sign of Station, Name and Address of Operator, Whether Entry is for C.W. or Phone and whether for a single band or all band operation, Total Points Claimed, and finally a declaration that all the contest rules and regulations for Amateur Radio in your particular country have been observed and that the log is correct and true to the best of your belief.

13. The judges reserve the right to disqualify any station for:

(a) Constant tone reports under T8;

(b) Continuing key-clicks;

(c) Phone splatter or excessive modulation;

(d) Off frequency operation.

14. The Executive Council of the N.Z.A.R.T. shall be the sole adjudicators and their ruling will be binding in the case of any dispute.

15. Overseas stations should call CQ VK/ZL, and VK/ZL stations should call CQ DX TEST.

16. **AWARDS.**—Certificates will be awarded to the station returning the highest score from each participating country (each call area in the U.S.A.). There will be no world winner, VK and ZL awards, etc., will be announced by the W.I.A. and N.Z.A.R.T. respectively.

17. Entries from VK and ZL stations must reach N.Z.A.R.T., P.O. Box 489, Wellington, New Zealand, by 26th November, 1948. Overseas logs should reach that address by 14th January, 1949. Envelopes must be clearly marked "VK/ZL Contest."

## RECEIVING CONTEST

1. The rules for the receiving contest are the same as for the transmitting contest, but is open to members of any Short Wave Listeners' Society in the world. No transmitting station is permitted to compete in the receiving contest too.

2. The contest times and logging of stations once in each band per week-end are subject to the same rules as for the transmitting contest.

3. To count for points, the call sign of the station being called, and the strength and tone of the calling station, together with the serial number sent by the calling station, must be entered in the log. Three points will be claimed for each such entry in the log.

4. It is not sufficient to log a station calling CQ Contest.

5. VK receiving stations cannot log any VK stations and ZL receiving stations cannot log any ZL station—only overseas stations but VKs may log ZLs and vice versa. Overseas stations will enter only VK and ZL stations heard operating in the Contest.

6. The awards for the receiving contest will be similar to those in the transmitting contest.

7. Receiving logs are to be similar to transmitting logs.

## QUESTIONS AND ANSWERS

A.5.—From VK3NB:—

P Band . . . . . 225-390 Mc.

L Band . . . . . 390-1,550 Mc.

S Band . . . . . 1,550-5,200 Mc.

X Band . . . . . 5,200-11,000 Mc.

K Band . . . . . 11,000-33,000 Mc.

but no information on G or I Band. Can anyone help?

## NEW QUESTIONS

Q.6.—VK3PW would like to know how and why the constant voltage transformers, advertised on p. 112 of the 1947 A.R.R.L. Handbook, work? In particular he is interested in the 500 v.a. size.

Q.7.—What is the best way to control the gain of an r.f. sharp cut-off tube such as a 6AG5 or 6AK5? Is varying the grid bias satisfactory?

## PARASITIC

We regret that an error appeared in the article "BC696 and BC457 Transmitters as v.f.o." in the May issue.

The removal of R70 as instructed will result in no indication from the magic eye at crystal resonance. Correct operation can be restored by substituting for R70 a resistance between the oscillator supply and cathode of the magic eye tube, of suitable value to restore the correct bias to that tube. For m.o. h.t. supply of 105 volts, this resistor can be 25,000 to 30,000 ohms, or proportionately higher, for higher oscillator plate voltages.

# FEDERAL, ISL and DIVISIONAL NOTES



Federal President—W. R. Gronow, VK3WG; Federal Secretary—W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

## NEW SOUTH WALES

**Secretary**—Wal Nye (VK2XU), Box 11734, G.P.O., Sydney.  
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**Divisional Sub-Editor**—H. P. Trehaner, VK2BM, 5 Wainwright St., Burwood.  
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**Administrative Secretary**—Mrs. O. Cross, Law Court Chambers, 191 Queen St., Melbourne, C.I.  
**Meeting Night**—First Wednesday of each month at The Radio School, Melbourne Technical College.  
**Zone Correspondents—North Western:** B. R. Marni, VK3BM, Quambatook; Western: C. C. Waring, VK3YW, 12 Skene St., Stawell; South Western: B. Seccombe, VK3BZ, 17a Reginald St., North Ballarat; North Eastern: D. Tacey, VK3DW, 18 Harold St., Shepparton; Far North-Western Zone: Harry Dobson, VK3MF, 42 Walnut Ave., Mildura; Eastern Zone: J. D. Chilver, VK3ZD, 20 Smith St., Leongatha.

## WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

**VK2ZW**—Sundays, 1100 hours EST, 7190 Kc. and 2000 hours EST 50.4 Mc. No frequency checks are available from VK2ZW.

**VK3WL**—Sundays, 1130 hours EST 7195 Kc. Spot frequencies every fourth Tuesday, between 1000 and 2200 Kc. every 10 Kc. Individual frequency checks of Amateur Stations given when VK3WL is on the air.

**VK4WL**—Sundays, 0900 hours EST simultaneously on 7109 Kc., 14342 Kc. and 52.004 Mc. Frequency checks are given two nights weekly, and the hours are announced during the Sunday broadcasts.

**VK5WL**—Sundays, 1000 hours SAST on 7194 Kc. Frequency checks are given by VK5WD on Friday evenings on the 7 and 14 Mc. bands.

**VK6WL**—Six 2 p.m. Sun. 9.30 a.m. W.A.S.T. between 7000 Kc. and 7200 Kc. No frequency checks available.

**VK7WL**—Second and Fourth Sundays at 1030 hours EST on 7174 Kc. No frequency checks are available.

## QUEENSLAND

**Secretary**—G. G. Augustusae, Box 638J, G.P.O., Brisbane.  
**Meeting Night**—Last Friday in each month at the State Service Building, Elizabeth St., City.  
**Divisional Sub-Editor**—F. H. Shannon, VK4SN, Minden, via Rosewood.

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## TASMANIA

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**Divisional Sub-Editor**—T. Connor, VK7CT, 385 Elizabeth St., Hobart.  
**North-West Correspondent**—C. P. Wright, VK7LZ, 3 Knight St., Launceston.

## FEDERAL

### DX C.C. LISTING

#### PHONE

DX	NI	W
VK3CX (8)	125	
VK3BZ (14)	113	
VK3EK (10)	112	
VK3VW (12)	111	
VK3QJ (7)	103	
VK3QL (18)	101	

#### OPEN

VK3DI (2)	125	
VK3BZ (2)	123	
VK3HQ (4)	121	
VK3MC (4)	120	
VK3RU (11)	112	
VK3B (16)	110	
VK3KX (11)	108	
VK3L (12)	105	
VK4EL (16)	104	
VK4ER (9)	102	
VK4AX (3)	100	
VK4AIA (15)	100	

Figures in parenthesis indicate the membership number to DX C.C.

### COMMERCIAL STATIONS

An increasing number of commercial telegraphy stations are appearing on our Amateur frequency bands. As previously pointed out in these notes, it belongs every amateur hearing one of those pirates to log the transmission with any details such as time, frequency, signal report, etc., and those using beams the approximate direction of the offending signal. Send these details along to the Federal Secretary as soon as possible, and help us to help you rid the bands of these "pirates".

### MORSE CODE PRACTICE TRANSMISSIONS

We are pleased to announce that permission has been granted to all WI stations to conduct weekly Morse code practices over the air on 2.3.5 Mc. band. Each transmission will be for a duration of 50 minutes, and will be from each WI station. The roster of transmissions is being arranged so that no two transmissions are on at the same time, and all transmissions will take place on the same frequency. We feel that these transmissions will fill a long-needed want especially among our country members and particularly for those many potential amateurs who are anxious to foster all speeds will be catered for so that even some of our best e.s. and phone men may also derive some benefit from the practice. As soon as the roster is finalised, the station rosters will appear in these notes.

## PHONETIC ALPHABET

As a result of a motion at the last Federal Convention, it was recommended that all Australian Amateurs adopt the standard phonetic alphabet as shown in the I.M.G.'s Handbook. Judging by some of the queer phrases used by some stations it is indeed appropriate that this matter receive the earnest attention and adoption by all Amateurs using phone.

### AUSTRALIAN AMATEUR CALL SIGNS

NOTE.—VK9 calls are being issued to Norfolk Island from now on.

**VK2AUS**—D. G. Rogers, 28 Ireland Ave., Mayfield, West Newcastle.

**2AKG**—P. H. Foxcroft, 23 Lansdowne St., Armidale.

**2AKY**—J. K. Ashdale, 63 Thorne St., Wagga.

**2AWA**—S. Smith, 29 Vine St., Mayfield, New South Wales.

**2QR**—R. B. McPhee, Leed Howe Island.

**2RJ**—J. C. Bray, 1 Wyalong St., Wylongahilly.

**2XIH**—H. A. Perkins, 21 Stratford St., Cammeroy.

**VK3AJD**—J. A. Egan, 54 Windella Ave., East River.

**3ARE**—W. J. Hehr, Kent Road, Hamilton (mobile).

**3ASW**—J. S. Walker, 21 Kelson St., Coburg.

**3ATM**—A. T. Morton, 1 Smith St., St. Kilda.

**3AIT**—W. H. Ross, portable of VK5UT.

**3AWM**—W. R. Moffat, 137 Stewart St., East Brunswick.

**3TK**—J. F. McCrohan, 15 Rockbarre Gve., Newcastle.

**VK4KD**—D. R. Berks, Blackall St., Thursday Island.

**4KPC**—C. E. Christensen, 71 Malcomson St., Perth.

**VK4JW**—J. B. Watson, 32 Glenhenty St., Woodville.

**VK6KN**—D. R. Annesley, 22 Teague St., Victoria Park.

**6GR**—D. A. Miles, 109 Mathieson Rd., Belmont.

**6ZX**—E. E. Grey, 14 Thomas St., West Perth.

**VK7FM**—T. F. Moore, 63 Anguston Rd., Lenah Valley, Tasmania.

### Alterations:

**VK2ADJ**—J. T. Greenhalgh, Flat 95, No. 1 Hostel, Margate.

**2AET**—A. Hayatt, 23 Archbold Rd., Rosehill.

**2AJE**—L. M. Mills, 60 Bourke St., Leichhardt.

**2AJF**—J. G. Voss, 249 Victoria St., Fairfield.

**2AMB** (formerly 2NB)—L. Baxter, 31 Murdoch St., Cremorne.

**2AVT** (formerly 2A1T)—V. E. Tierney, Miller Rd., Guildford.

**2AWV** (formerly 2OX)—J. J. Mount, 50 Potts St., Ryde.

**2CX**—J. T. Evans, Nelsons Bay, via Newcastle.

**2DZ**—E. P. Hodgkins, Coast Rd., Avoca Beach, via Grafton.

**2FK**—T. W. Kinsella, 115 Alice St., Sans Souci.

**2FN**—J. G. Noble, Hood St., Coffs Harbour Jetty.

**2FW**—J. N. Trehan, c/o. 66 Manning Rd., St. Helens.

**2ID**—R. H. Hatton, 21 Bulkin Rd., Epping.

**2MB**—H. J. Banks, 111 Hewlett St., Waverley.

**2MJ**—A. J. E. Crisp, 68 Homer St., Earlwood.

**2MR** (formerly 2ANS)—L. H. Vale, 12 Quest Ave., Miranda.

**2OX**—J. Stewart, 53 Burwood Rd., Balmore.

**2UL**—W. W. Swan-Lyons, c/o. P.O. Tableland.

**2UR**—C. J. Henry, 45 Military Rd., Neutral Bay.

**2YS**—V. L. Shillcock, c/o. Canberra Broadcasters, Civic Centre, A.C.T.

**2XG**—L. W. Crane, 47 Russell St., Vaulance.

**2XO**—J. M. Metcalick, Clarence River Council, Sub-Station, Balahy.

**2XW**—A. J. Voss, 43 Victoria St., Burwood.

**2YT**—G. R. Woodward, Box 20 R.M.B., Kirkconnell, via Rydal.

**VK4CU** (formerly 5CU)—C. G. Gurr, 40 Mathosa Rd., Toowoomba.

**3AJJ** (formerly 2A1J)—V. T. Egan, 943 Bourke St., Melbourne.

**3ANJ**—J. G. Morris, 511 Morris St., North Balwyn.

**3APW** (formerly 2APW)—M. M. E. Rees, 10 Chalmers St., Darling.

**3AY**—H. G. Wolters, portable and mobile of 3AYT.

**3ET**—H. J. Asmus, Telegraphist, C.T.O., Melbourne.

**3FG**—J. C. Constable, 19 Parkers Rd., Parkdale.

**3GT**—G. A. Scott, 72 Garfield St., St. Kilda.

**3IT**—J. J. Quaker, Sandilands Lodge, 71 Queens Melbourne.

**3JC**—R. W. Amos, 23 Beaulia Rd., Camfield.

**3JQ**—T. L. Lang, 270 Canterbury Rd., Surrey Hills.

**3KR**—R. B. Beake, 7 Park Ave., Glenhenty.

**3NI**—E. H. Jones, 415 St. Kilda St., Elwood.

**3NR**—W. Richardson, 598 Charman Rd., Cheltenham.

**3UY**—J. B. Brown, 39 Clarence St., Elickerwick.

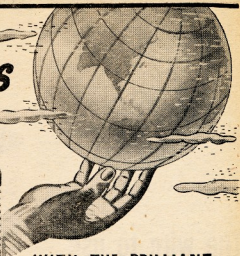
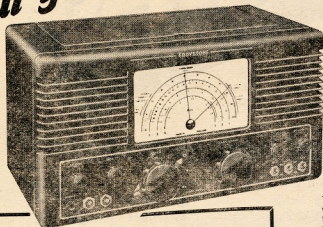
**3YV**—P. E. Evans, 1 Boola Creek, Yallourn.

**3ZK**—J. T. Stevens, Beverford (Box 263, Swan Hill).

**VK4AL**—P. Black, c/o 24 Princess St., East Bondi.



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#### R.F. loss in decibels for 100 ft.

Blue . . . . .	2.08
Yellow . . . . .	3.38
Black . . . . .	2.48
Brown . . . . .	3.83
White . . . . .	3.02
Red . . . . .	2.82
Clear . . . . .	3.73

#### Characteristic impedance

Blue . . . . .	157.5 ohms
Yellow . . . . .	161 "
Black . . . . .	165 "
Brown . . . . .	155 "
White . . . . .	152 "
Red . . . . .	157 "
Clear . . . . .	146 "

#### Velocity constant

Blue . . . . .	.7
Yellow . . . . .	.658
Black . . . . .	.69
Brown . . . . .	.71
White . . . . .	.696
Red . . . . .	.76
Clear . . . . .	.7

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VK3HI—H. J. Champion, c/o. Civil Aviation, Tennants Creek, N.T.

VK6AT—A. T. G. Hanson, c/o. Dept. Civil Aviation, Broome.

6CX—C. Quits, 67 Holland St., Wombey, W.A.

VK7BE (formerly 2ANJ)—E. L. Blackmore, 17 Oswald St., Invermay.

7JB (formerly 3AAB)—J. C. Batchler, 12 Beechworth Rd., Lower Sandy Bay.

VK9HI—L. C. Rabel, Murray Barracks, Port Moresby, Papua, T.P.N.G.

9QK (formerly 2MK)—E. C. Roberts, c/o. Government Aerodrome, Lae.

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## "POP" MEDHURST VK7AH

At "Cranleigh," Beach Road, Sandy Bay, about noon on 4th August, 1948, there ended a life that had had a meritorious innings when Mr. F. W. Medhurst, VK7AH, Tasmania's Grand Old Man of Radio and "Pop" to the gang, passed on.

In his 81st year he died, as he had lived, very peacefully after a short illness of less than a week. Regret was felt in all quarters where he was spread and at the Divisional meeting on the same night much was said and more thought given than could be expressed here. He was honoured by all standing in a two minutes' silence.

Much of the following was written some ten years ago but we feel it will stand repeating. VK7AH was English by birth, being born in Cobham, Surrey, England, in 1867. He was educated at Nelson College, Lae, Kent, and at Surrey County School, Cranleigh, then at the Electrical Engineering School, London. He entered the Cobham Post Office which consisted also of printing works, chemist and druggist and stationery business, at the age of 14 years as a telegraphist and general post assistant under his father, where he worked for eight years. During this period many leisure hours were spent with the Telegraph Battalion, Royal Engineers, where he gained a lot of his early experience, in addition he had two years with the Second Royal West Surrey Regiment, Volunteer Battery Signaller.

In 1889 he left England for Australia and arriving in Melbourne he joined the temporary staff of the G.P.O. Later he transferred to Flinders Street and Prince's Bridge railway stations as operator and telegraphist, this he spent his first two years in Australia. Coming to Tasmania in 1891 he joined the Telegraph Department of the P.M.G.'s Department as operator and the same year transferred to the electrically fitted staff of the Department for telephone and telegraph work.



During 1900-1901, in conjunction with Mr. Hallam, then W/T Engineer for the Department, he carried out experiments and in 1901, as Mr. Hallam's assistant, obtained success by contacting and maintaining telegraphic communication with H.M.S. St. George which, with H.M.S. Juno, accompanied the Ohlrich in which the Duke of York visited Tasmania. They constructed the land station personally at the then defence battery on One Tree Point at the Long Beach Light, known as "Blinking Billy," where operating was continuous and very highly commended by the officers concerned.

The equipment consisted of two spark coil transmitters 12 and 14 inches respectively with adjustable brass balls spark gaps and tuned with a tapped inductance, power being derived from a Planté accumulator. The receiver was a meagre, coherer detector made with nickel and iron filings in a glass tube with two silver disc electrodes, one in either end. These detectors were also duplicated so that the filings could be replaced as required, for in use oxidation was rapid necessitating frequent changing. For de-cohering an electric bell was used as a rapper in one case while the other was mounted on the armature of a sander relay which operated a Siemens' Morse recorder.

Testing coherers for activity was done with a miniature Whimhurst Machine. The coherer was registered on an active coherer by placing its spark gap close to receiver aerial. This Whimhurst Machine was also used as a gas lighter. The aerial was vertical and fitted, using a plate immersed in the river as an earth. 90 feet of scaffold poles lashed together

was erected as a support pole. A photograph of this equipment remains as a cherished treasure. The set-up was operated from a low roofed room normally used for oil storage and the room was well fitted about making it presentable when the visitors expressed a desire to see this "so wonderful" station.

An extensive military career that commenced in England was continued in Tasmania as follows: After two years with the 1st Co. of the 1st Infantry, he transferred to Mounted Infantry here to be known as "Tommy Atkins" to his intimate associates. After eight years he became a member of the 1st Battalion of the 1st Infantry in Tasmania, an office which he held until he reached the retiring age after World War I. Entering the business field in 1917 he originated the firm of Medhurst and Sons, radio and electrical, and took an active part in its conduct until recent years when indifferent health caused an easing up. Even then he had his own office at which he attended whenever possible. When originated the business specialised in radio, also some of its earlier ventures was the installation of the first electric lighting equipment in Hobart.

Radio, apart from all other interests, was his foremost hobby and to those who expressed interest he could reminisce for hours on how many ingenious ideas were thought out and how they were made to work and a variety of expedients used to do the job of the now easy to get parts. Such enthusiasm as to how they were made to work and a variety of expedients used to do the job of the now easy to get parts. Such enthusiasm as to how they were made to work and a variety of expedients used to do the job of the now easy to get parts. Such enthusiasm as to how they were made to work and a variety of expedients used to do the job of the now easy to get parts.

He was a member of the W.I.A. from its very early days in VK7; was elected a Life Member in 1925. He was one who hated to see discord and always to the fore, in case anything might upset the serenity, as peace maker. For years he was President of the Tasmanian Division until his health, about 1935, forced him to resign. He was Patron for many years prior to his death. He was an active member of the Hobart Radio Research Club in the earlier days of radio. Prominent among "Pop's" activities was the Medhurst patent field telephone which found a very wide use in military activities.

A peep into his onetime shack makes ones eyes open, for there, as an accumulation of the years, is revealed a collection that almost constitutes a museum in itself. Just to name a few items: an original Western Electric valve receiver, beautifully built in stage units, each with a polished wood cabinet and "headboard" mounted; purchase price £150. Another, an original De Forest of about the same era. (Crystals sets in these days cost about £15 each). There is one of Edison's original talking machines, built up on a lyre shaped base with record drum mounted across its extremities and a horn magnifier set up on the opposite end of base, reproduction apparently was by vibrations set up in the base and transferred via the horn. There is an Edison machine of the electric variety with automatic record changing, five drums being mounted around a common centre, each drum coming up into playing position as other finished. There is a 2 volt motor with ring type armature and designed to operate from a Bichromate Cell.

Gauges, meters, microphones, various shapes and sizes, early day electric lamps, a French Barthon Ader field exchange, a two station heliograph complete, to say nothing of scores of transmitters from the days of activity, etc., etc. To one whose life was devoted so much to radio he found much pleasure in being able to converse with his then aging mother in England via the Radio Phone some ten years ago on her 91st birthday, she died at the age of 92.

To all this we must add that, with Mrs. Medhurst, who had by some years predeceased him, he had conducted a life and career and reared a most creditable family. One can be forgiven for wondering just how, after reading so far, the fact remains.

He leaves behind him a daughter, Miss Edith, and four sons, Messrs. Rowland, Harry, Phillip and Edney, to whom we offer our sympathy. We have a special thought for Miss Medhurst who stood by our Grand Old Man so valiantly and untiringly to the end.

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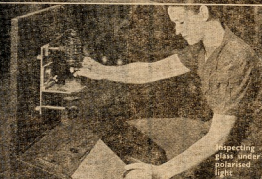
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Protecting bulbs with  
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## FEDERAL QSL BUREAU

RAY JONES (VK3RJ), MANAGER

**PLEASE DO NOT ATTEMPT TO QSL TASFAS OF ANKARA, TURKEY. DIRECT. BY DOING SO YOU will endanger his livelihood and most certainly his life.** The only QSL Bureaus in that country. No Amateurs are as yet licensed by the Turkish authorities but TASFAS believes that later on the amateur service will be allowed and he hopes to be the first license issued. Until then any cards or letters addressed to Amateur Radio TASFAS will cause him trouble and may ultimately mean his expulsion from the amateur service in Turkey. We don't wish to endanger our only contact with that country do we? A few facts about the station and the man behind it. He is a married man and lives in Australia for a period during the last war and can only manage to squeeze in a few contacts with Amateurs during his spare time. He is a man so he is therefore unable to make schedules either phone or c.w. but when idle and conditions permit he is able to make QSL Amateur contacts and the best time for VK contacts is between 0430/0500 G.M.T., especially when W.D. points are poor for lighting. He is running 1 kW. on 2107Hz, modulated class B with 5100. VK contacts are only possible the long way round owing to his beam being unidirectional and normally in a direction away from us. He is unable to contact us as he is unable to QSL direct but will definitely QSL all contacts. SEND YOUR CARDS TO: VR2AIA, HARGREAVE, 100000, NEWCASTLE, N.S.W., with whom TASFAS runs regular schedules and who will QSL all cards promptly. He is a very friendly man and has a wife, Alice, Goldie (working 10) passes on the information that the (VK7TG) (10) W3 stations located in Corpus Christi entitles any VK station to a special QSL certificate, but no information is given whether pre-war contacts are eligible or to whom application is made for the award.

Of special interest to anyone that may be earned is that of the K1HG Ray-Chewers Club who can make an award for five (5) contacts with his club.

VR2AZ/VR1 is now VR1B with QTH on Canton Island, Phoenix Group.

VR2B is joined to VR1 from Major Chakravarti (VR2B1), in the 14th July, advising of the formation of a new Radio Club for India, with official call sign of VU2MTI. The QTH of the club, which is in the QSL Bureaus, is: The Amateur Radio Club, P.O. Mhow, Central India.

Geo Cluffier (M15Z), ex-M15Z, ex-M15Z21 writes, "I am writing you via R.S. and hope you will be closed down as he expected to sail for England on 27th June. He desires all QSL managers to send any cards for him either via R.S. or direct to his home QTH which is: 39 Elm Park, Stanmore, Middlesex, England. His home call sign is G5ZL. Happy landing George, and all B.E.R.U. and VK DX contest participants will miss that good signal and easy contact in Brites."

The A.R.L. advises of a change of QTH for their QSL Bureau. The new address is deciphered from a weak rubber stamp impression is: A.R.L. QSL Bureau, Box 60, Roma, Italy.

Bert Knowles (VE2QB) the QSL manager for VES, writes as follows: "The Ontario phone net have sent some 68 food parcels to Great Britain and other clubs and groups are doing the same. We are the outgoing QSL, despatches to members to seek donations for this object and get this idea from reading the VK report in 'Amateur' magazine. With the help of Ham Wirtz (VE3BWV, ex-G6WV) we started the idea in Canada of 'Ham from Hams to Hams'."

P.O. Bureau address: YQ4DII, QSL Officer, P.O. Box 119, Livingstone, Northern Rhodesia; and YQ4HRP, Radio Club of East Africa, Box 1213, Nairobi, Kenya Colony.

## NEW SOUTH WALES

On Friday, 28th July, with an attendance of about 160 members the monthly meeting was held at Science House, Sydney. After the meeting Mr. Rosa Treharne (VR2QD), the lecturer for the evening, gave an interesting and instructive talk on "Calculation of Ionospheric Conditions" and showed three films. Two illustrated the operation of the cathode ray tubes and their relation to ionospheric recordings and energy. Owing to the great interest aroused and the number of questions asked, the members unanimously agreed to ask Mr. Treharne to devote another lecture on the subject in the near future. It reflects credit on Ross that such an enjoyable lecture could be given at such short notice. Bill Hicks (VK4ANZ) was to have given a lecture on "Industrial Electronics" but two days prior to the meeting he became ill and Ross was asked to fill the breach. Bill is now to give his lecture at the September meeting. The metropolitan area has been divided into zones on the lines of the country zones, so ably managed by ZHE.

24HH will report delays in the Western Suburbs, 24M the North Shore, 24JG St. George area, 24X the Eastern Suburbs, and 24W South Sydney. In addition 24CK has been given the job of looking after the DX handle both metropolitan and country.

## DX SECTION

As this is my first effort I appeal to the "VK2 DX gang" to make suggestions and forward any information of value and interest to the DX fraternity to No. 12 Schakel Ave., Kingsgrove, to reach me not later than the 5th of each month. Such items as station heard or contacted with frequency, QTH, QRL, etc., will make this section of interest to all. Country members are included so how about it if you fellows "out-back"? Let's hear from you.

28 Me, has been poor this month so 14 Me. will receive the most attention. One of the more elusive, much sort after stations, AC4YN, got in an appearance at approx. 2200 hours on 26th July, calling a couple of WAs on sked. As no American stations were heard applying to him, I gave him a call of two and was fortunate enough to work him at 2310 hours. AC4YN has since been worked by 2DI, 2QI and 2HJZ, giving the latter two W.A.Z. post-war.

WOODD who was signing WOODD/PFI and WOODD/VT2 in the Andaman Islands is now WOODD/CRS in GOA. Every time he is on he is attacked by a terrific "dog pile"—mainly WAs, and does not seem to want any VK contacts. As yet we do not know whether he is on land or sea. Of course, if he is on a ship, he is n.g. From 2DI (W.A.Z. and 170 W.A.Z.) I learn that PSN2 is definitely on Corsica, but is not signing PSN2/PC. He would be a rare catch should you get hold of him. LA8AA (Tasmania) has been working here on 27th July at 1650 hours. He is looking for VK contacts. Owing to heavy W QRM his QTH was missed and would be appreciated if anyone could supply this information. French India (F1H) has at last been represented post-war by WJZ at TR, usually around the low end of 14 Mc. QSL via the R.F.F.

I propose a DX Honour Roll in these notes so that we can see how the fellows progress each month. All zone and country lists must have VK contacts. I suggest two sections similar to that in CQ magazine, i.e. a phone-c.w. section and a phone-only section. Phone contacts must be confirmed for this roll. In conclusion I know you are all with me in conveying to Gordon Cole (VR2DI) our congratulations on being the first VK to W.A.Z. He has received advice from WGGD and is now awaiting his certificate. 2DI also has DX C.C. post-war. Don't forget those notes and scores covering your DX on 7-14-28 Me. Phone and c.w. they will help to make these notes. 78 and good hunting—24CX.

## WESTERN SUBURBS

Most prominent feature of activities in the Western Suburbs the amount of enthusiasm displayed for 14 Me. On this band 2ND operating portable from Bankstown has been heard with a most con-

sistent signal working 24BZ on Saturdays. Another consistent one is 24GL.

2NM was overheard discussing 10,000 Mc. with 2ND and we wonder whether they may have been referring to motor-cycles! Time will tell! Harry uses a c-wax dipole vertically polarised. 24HB plans attacking 14 Me. with a SC85S2 "hotted up" and coupled to a stupendous beam. If pressed he will most modestly tell you of the VOs, 23As, CB7a and KP1a etc. worked recently on 7 Mc. c.w. 24T, a diardid who after many years of c.w. seems to have given it all away, now spends Sunday mornings on 14 Me. phone.

2GR, a real all-rounder and the first Ham to organise a chess contest between VK and 2L, is now in hospital at 118th A.G.H. Concord. We wish him a speedy recovery. Alice is well remembered for his work on 218 meters. Those were the days! 2TU hits the jackpot on 7 Mc. c.w. and worked a VE1 in North Scotia plus other DX. 24ER is heard nattering on 7 Mc. phone between spells of shiftwork. Max is a "key" man at his work and believes in relaxing on phone. 24GII, the DX king of Abbotsford, is carefully pruning his 14 Mc. rotary beam with all the love and devotion a horticulturist would display for his prize rosebush. 24W leads a good good on 14 Mc. phone with his c-wax fed bell curve. It looks as though 24Y is about to motorise his beam for 14 and 28 Mc.

2CL has been heard chasing DX on 7 Mc. c.w. 21N, formerly of Annandale and now on Leard House Island, puts a colossal c-w. signal into Sydney on 7 Mc. How are those South Sea Island bells Art? 24WV, a new arrival, has a handsome beam antenna. 24MD is heard on 14 Me. phone.

## NORTH SHORE ZONE

2TI, has his 813 fathm perking now, and is getting his dome sprayed ready to modulus it. 2PV would sell his soul for a rotary thimble designed to fit into a small backyard—who wouldn't? 24ND is building a front end to his receiver to end all front ends. 2FM, now at Ventral Bay, is heading the air on 14 Me. with a hefty signal. 2CM, the "ole-time" ham's been heard on lately, but might have snuff off to have a look at the v.h.f.s. or sumpin'. 24I QIT with work, but manages to pop up on Sunday mornings for a sked or two. 24JX's location still makes me drop at the lips every time I play golf down his way. 24Q now galloping up and down the band with his 26 watts "governed" by a 100 v.d.c.

24MB is working DX merrily again after his call sign change. 24A and 24A are pounding on the rare staff. 24I seems to be getting out consistently with his high quality phone. An NCOLDX meeting is helping to snare the good ones for him. 24GJ does very little radio—building a ketch to get away from QRM. 24IO has a nice signal and fat on 14 Me. c.w. 24GW has a new 30 rotary, thoughts are towards a new receiver. 24N will now be on 28 Mc. phone, his nice signal on 7 and 14 Me. c.w. 24KO is off the air. He needs an 812 urgently, but can help? 24W listens a lot—how about a signal!

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2HK works the DX. Has nice phone. 2IQ and his XYL 2MI are on 7 Mc. phone Sunday afternoons with solid signals. 2ARR has 7 Mc. phone. He surprises the boys with his recordings of their signals. 2RA is now fully automatic. He has high speed break-in working. 2SV is reported to be on 28 Mc. phone. 2EM is more interested in high quality amplifiers; he has a good signal on 50 Mc. 2AE has a solid signal on 7 Mc. phone. He gets out well. 2DR is busy keeping the high speed c.w. boys supplied with an extra supply of dots.

#### ST. GEORGE ZONE

2MH is still getting an occasional new country on 28 Mc. 2GS has heard lately with 2 watts from a No. 11 on 7 Mc., while building the new rig between hopes to J land. 2IH is still chasing the elusive DX, how many countries now? 2VE, a new comer! Charlie is on 7 Mc. with a No. 11, re-vamping AT5 for a.c. 2PTJ is using a Franklin osc. on 7 Mc. c.w. with 14 watts. Frank works interstate for good reports, has under construction three separate finals using 832s. 2ASK has a new rack that would shame a few commercials; has phone, but works only 14 Mc. c.w. 2SV has 70 watts phone and c.w. on 7 and 14 Mc. and is at present building a portable 144 Mc. equipment to work from car.

2AGA is at present building new shack, but finds time for rag chews on 3.5 and 7 Mc. 2AGH is at present on a visit to the UK, and will return home in a V land. 2BY seems to be active on all bands. Reg helps out with frequency and modulation checks. 2AHX is building a new super super; on 14 Mc. c.w. but has phone. 2JZ is also building portable 144 Mc. gear, and now has remote control; works 7 and 14 Mc. 2ADC is happy, having moved to his new home, but is at present inactive. I wonder if 2AV is happy, as 2ADC is now composite him. Heard at times on 7 and 14 Mc. 2ALT is now on 14 Mc. and has h.c.l. on 7 Mc. 2AJ is still going strong on 14 Mc.

2VV is inactive at moment—new beam under way. 2RE a new Ham, getting out on 14 Mc. phone. 2AIM is on c.w. and alternates 7 and 14 Mc. 2UF and 2AEF operate on 7 and 14 Mc., the latter has a new beam with 16 position selector.

#### NORTH COAST AND TABLELANDS

2JK using a new mike a JT, been active on 20 with a new antenna and has a c.r.o. and Class C Wavemeter in action. 2SH erecting an RJK for 20 and hopes for better results, getting his share of DX. 2TB has been on two months and has a fair signal, uses a 2C1 (N.Z. Diapason) v.f.o. 6V6 807 and 45 watts, mode. 8075 ABI; missed any damage during the floods but plenty of water under the house. 2OI and 2XD still awaiting 50 but expect static will drive them back to 40 paces. 2NY getting things shipshape in the shack after the lean out by the water. 2WC a proud father for the third time, a boy; still working plenty of DX. 2AEY has also to be congratulated, a father once again. (Of the record the scribe 2PA is also a proud father, must be something in this North Coast air!)

2ASP can be heard on 40 active from (not in) a hotel, only c.w. as yet. 2DS kept busy getting a mast ready for some brass pounding. Warwick is an old M.N. operator. 2LH did some good work during the flood.

#### NEWCASTLE

2BZ and 2AGD, using transceivers on 144 Mc., heard 2FI at Wentworth Falls on 8th August, but couldn't make it two-way. The following are on 144 Mc: 2BZ, 2AGD, 2TTP, 2ST and 2ADM, 2PQ, 2AFS and 2TE are building. 2AHA has the distinction of being the first VK to QSO 2AF3AS on 20 phone. The gang would like him on 10. 2CW heard on 20 with new beam, busy keeping notes in local radio club. 2PQ has shack nearly completed and will be free of family QRM, or the family will be free of him, depending on the point of view. 2AFS, Newcastle's most energetic Ham, has stacked 28 and 50 Mc. beams but claims he is always on the wrong band at the right time or vice-versa. Please contact 2FP before the 15th of each month with news.

#### COALFIELDS AND LAKES ZONE

Little to report from the Lakes and Gosford area. The regular 2DC and 2RU seem to be keen on 50 Mc. as ever. 2AMU heard on 10. 2KR with his usual punch on 40 phone, no others heard. 2TY on 10 with a rotary, worked 1414 with 2ADM, and trying to contact the Newcastle gang; has been heard at 88 by 2ADT. 2JZ has 10 and 20 beams and full gear on 144 Mc. 2EQ with a good sig on 10, a new receiver under way. 2EZ supplies the news from Kurri—2YO not active, has been in hospital, hope you are OK now George. 2KF is active on 14, 28 and 50 Mc. beam on 10 and 20 on the latter band. No activity from 2XT or 2KK. 2KF working at one of the local collieries, no Ham activity as yet. 2KZ only needs New Hampshire for his 28 Mc. W.A.S. that is on phone too, going on 50 Mc. using the famous "blooper" working Newcastle, Toronto and Cessnock and VK51! All on two tubes.

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The August meeting was held on the 9th of the month, there being 46 members present. Our Secretary—GAG—was away, up in the North-West Territory at the time, so GKW took his position as acting Secretary.

es of the forthcoming VK/ZL Contest were GRU commented on the Remembrance Day and called for an organised effort on the part of entrants, so that VK6 could win the trophy. It was readily given and we should know by now by the time we read this in print.

Council, at 3:30 P.M. suggestion, will discuss the N.R.P.M. to be made available on all frequencies particularly 3.5 Mc. in an endeavor to raise this band again and eliminate b.c.l. interference. A report will be sent to Federal Ex- to show approval and is expected to conform reports from other Divisions. ( ) was being married in a couple of weeks. ( ) was given a good hand and helpful advice was spoken to wish him and his XYL every success in their future life.

very meeting—6KW gave a lecturette "My  
ur Station." This was the second of the  
Ron went to considerable trouble to produce  
ms and showed interesting photos of his  
ment, which would probably be the most  
ise amateur station in VEG

tor and power supplies; so making up a set transmitter on the 7 Mc. band. Circuit indications were explained in Mal's f.b. style. When we saw the set-up work we believed all! The lecture was most appropriate because the percentage of the lads present are expecting to be their own Command Transmitters in the near future. Appreciation was shown in the way for a most informative lecture. The day closed on sked—10.30 p.m.!

graduates this month go to 6DJ on the second harmonic. This should get you a shining star. How? 6DJ has the drive of evenings and Mac is devising a means of control, using his 108 set. He can receive ticket broadcasts on it anyway. 6JB says he set up a 14 Mc. fixed beam on Europe. In any case, skips Waterman's Bay. How's DX Alan? With 3i waits input has worked ZL with a report. We worked this ZL later and learned he was using a two-tube receiver! Extra lbs. 6BK had a very unfortunate accident, but has been out of the hospital and is putting up some wire antennae, and almost pulled the house. Thanks for the neway letter, Bob.

took a rky "kick" from the rig when he caught the lot via a grub screw which holds insulation sleeve on a meter plug. Glad it was my worse than that sore finger. Horrie, and be sure you will give that idea away now! I have a 1000 ohm 100 watt resistor for 100 Mc. phone. Very t.b. for the d.c. mains. Don't say work some DX early in the morning on 10 Mc. GAG is at present operating portable in wild North-West. Hope you can bring back word on 6F1 and a few of the other lads up there. What a GAG is another one at the Capital. Hope it won't be long Harry, or else new receiver will be getting dusty! We haven't 6DX for ages on 7 Mc., but we hear some DX calling him on 8 Mc. Also notice he

appreciated Mal—there should be more of it. 6PC trying hard to put out a signal on 144 Mc. Drive is France's problem and he is also talking about the reflections from the moon! 6XZ often heard on 7 Mc. Harry is gradually getting the sorted out. 6XG, at Katanning, used to hear him on 7 Mc. regularly. What's all the news from down there Clarrie? What about 6XF also? 6MB is doing the right thing and taking into himself a XYL. Nice work Bill, and very 73 from all VKs.

### NORTHERN ZONE

We are very fortunate here in Tasmania to have such an excellent President, Secretary and Council in this Division and with these all working in harmony it is no wonder that practically all the Amateurs on the Island are members of the W.I.A. This month we welcome Mr. Bill Tanner (TTE) to the Institute and in the Launceston district we now require only one more member to attain the possible

Although there are few in number, Anateers in the Zone can be easily divided into three divisions. First are the high frequency gang consisting of 7DB, 7BQ and 7TE. The activity of these men I cannot put out as I am not in the iron ring, nor have I heard of them for some time. The second have been the DX men namely 7RR, 7DS and 7LZ. The doings of these three for the last couple of months could be written on a masthead seed and a page. The third division is the low frequency "look." Last, but not least, are the phone men 7BQ, 7GD, 7EB, 7NL and 7EB; of these 7EB appears to be the most active and can be heard in the winter months. The vigorous of the Tasmanian winter to all and sundry.

Although a little out of this zone they are nevertheless VKTs so it would not be out of order to say that we would like to hear from the Macquarie Island gang. Who wouldn't anyway?

4HD and 4LN were heard testing with 4HE the other night. Has the v.h.f. bug bitten you too, Jim? Believe 4LN has converted his DR106 to the 7 Mc. band; what a man! 4CU has his DR106 on a.c. Charlie's new beam is an f.b. job as is his new super receiver for this band. 4XD and 4GD are 7 Mc. band working as usual. Last advice is that 4RW and a few more are warming up for 50 Mc. Nice work fellows and hope to hear you down here this summer.

**144 Mo. DIGEST by W. J. Hartley**

Ideal conditions prevailed for the second 144 Mc. field day held on Sunday, 28 August, in VES, but due to the fact that there were only two mobile units on the road, activity was mostly confined to local city contacts. Unfortunately several attempts to establish long distance contacts over petrol restrictions and to re-building new records were established, however SABA-SYS made most use by having six norths by phone from a 790 foot hill located north of Diamond Creek, near the intersection of EHD and 36th St. SVI Drydake was contacted, while 3XM operating from Oliver's Hill at Frankston worked through to 3ED, 3AJ and 3ACM. Nothing was heard of 3CI at 303 or of 3IW or the Mt. Gambier boys.

It is hoped that for the next 144 Mo. field day, to be held on October 10, that there will be at least six portable units out together with country links.

Information is to hand from the N.S.W. V.H.F. Officer (VK2NP) that the 288 Mc. band is very busy with the calls of 2ANZ, 2LZ, 2AGL, 2NO, 2HL, 2NP, 2KI and 2YE, the last two Hams set up a 70 mile record by working each other from Mt. Gibraltar, near Bowral, to French's Forest

For the last month the following stations were active in VK3 on 144 Mc. band: 3ACM, 3ABA, 3AJ, 3ASG, 3TD, 3JO, 3HE, 3HR, 3LH, 3EN, 3XM, 3LS, 3MD, 3VF, 3ED, 3EH, 3EL, 3EW, 3EZ, 3CI and 3HW. In the process of coming on are 3EA, 3EE, 3AN, 3IX and 3ACU (ex-3CU). 3ACU is a 100% DXer, but has been unable to work before being heard. The most outstanding of the month is the work of 3VF, of Plympton, who has made contact with 3ABA, 3ACM, 3EN, 3ED, 3LH and 3AJ; in this case daylight transmissions appear to be superior. 3TO with par excellence "newcomer" station is back again with a much improved R-6-W.

3EW had his 12 watt swinger reported down at Drysdale by SVP. 3MD, one of the old 166 gang, put in a surprised appearance by being first contacted to the field station 3ABA with the aid of transceiver of 2 watts using a 7193, 6P6, etc., with a half-wave dipole. Another 166 veteran in 3LS made a welcome return on 144.5 with a 522 of 14 watts, and a 30 foot tower and 30 foot dipole. SCJ, who at Foster, was again for the first time, but this time hope was there for a city contact with the low end of the band clogged with stations.

The August v.h.f. group meeting of the Victorian Division provided discussion once again on the matter of the use of vertical polarisation for local work, and in view of the good coverage attained during the 166 days it seems a foregone conclusion that this method will be in use again.

A few nights after the field day 3BW made his debut with 60 watts to a 829A Yth 16 element array for vertical transmission. The effect on the city was nothing short of pure magic for bringing stations on the air. The first to contact 3BW was SAJ who was the winner by reason of having asked!! A wide range of signal strengths up to 88 were reported and the same effect of beaming away was noted as in the case of 3VF, apparently the high hills of the eastern side of Phillip Bay are acting as the reflecting medium.

Conditions on 144 Mc. in VK4 must have been somewhat bad during early part of August as, according to the grape-vine, regulars like 4HR, 4ZU, 4XG, and 4HK migrated to 14 Mc. 4FJ was heard arranging sked with 4FN for Sunday night after the local race-hounds had finished.

At last things have settled themselves in VK5 where the 144 Mc. band is concerned for the following are permanent occupants: 3JD, 5RV, 5QR, 5OB, 5EC, 5IQ, 5AF, 5CB, 5GF and 5GA, while 5KZ is dabbling with 388 Mc. 5RV is using a 500 Mc. m.o.-w. with 5GR on crystal control and 5GF is tripling on 388. 5JD is on a 500 Mc. man's holiday using m.c.w. into p.p. 7193a and an unmodulated crystal sig. 5JD, never out of it, kept a lookout for the VK3 field day signals with 5QCB. 5RV was quick to 5 foot-high ground plane in competition for the VK3 field day and 5MS settled on foot to the top of Mt. Gambier with the "portable" gear, contact was made with RE 89 plus signals to 5NV located at the Aerodrome, 7 miles away, no signals were heard from

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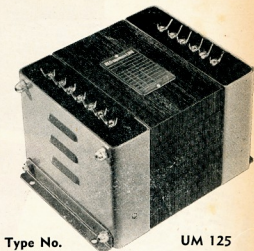
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